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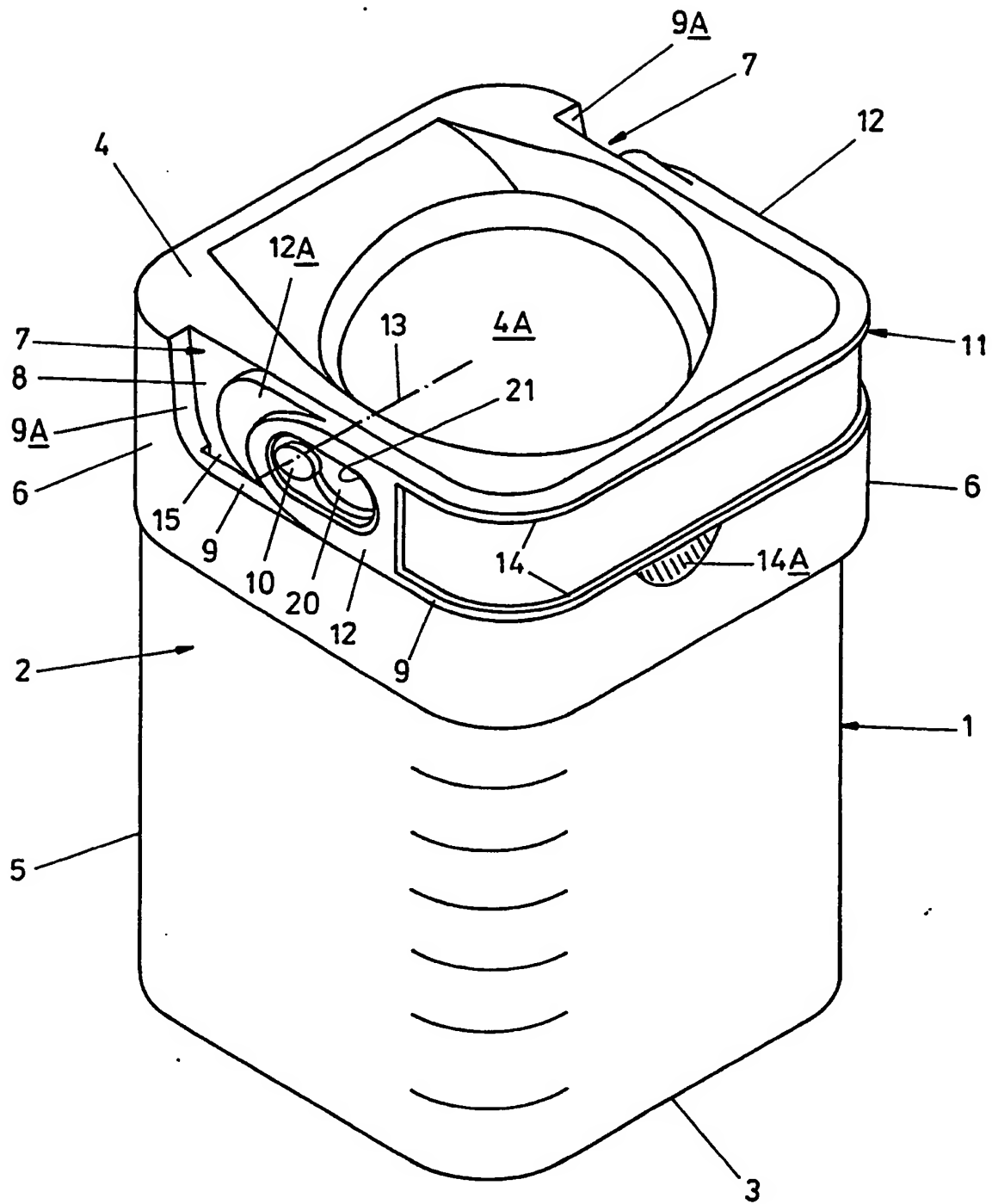


FIG. 1

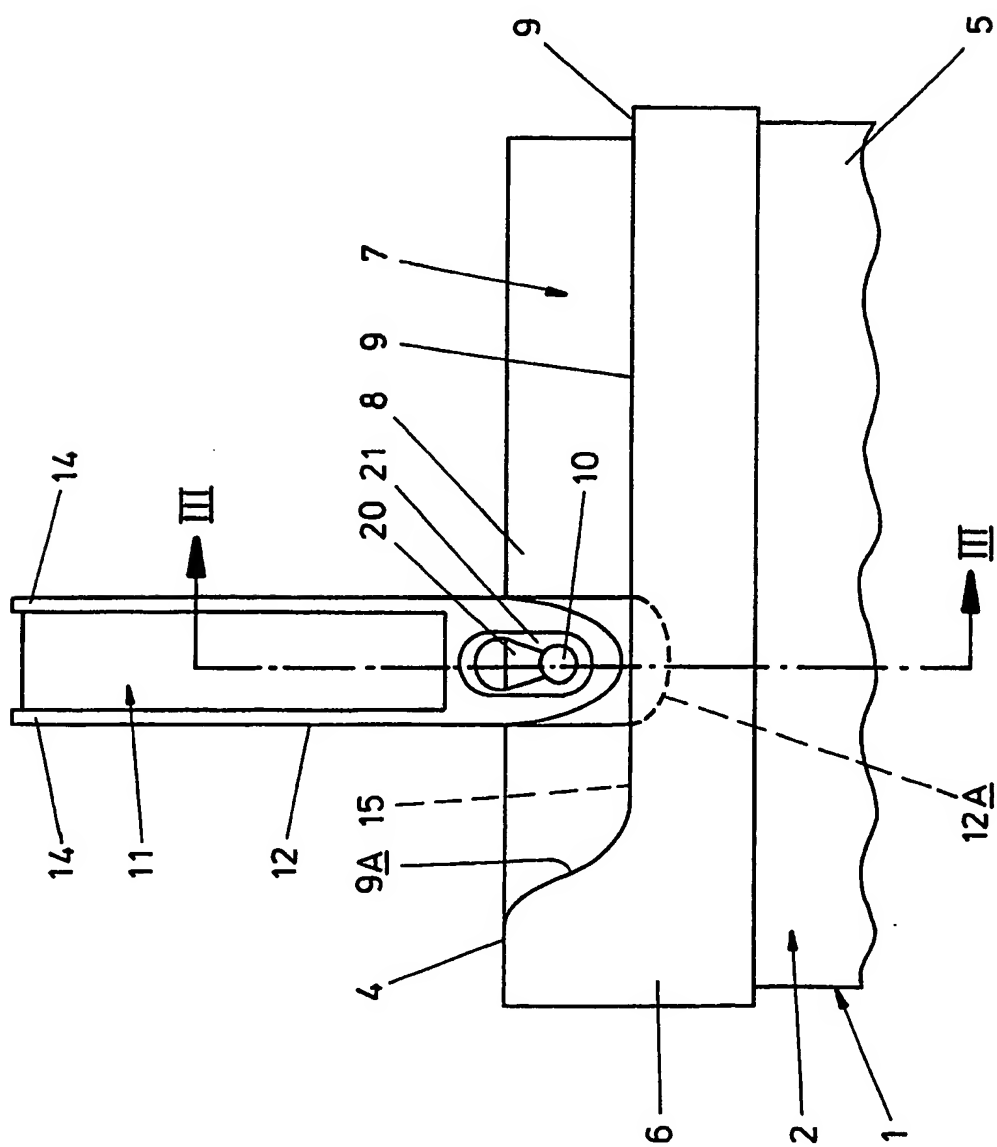


FIG. 2

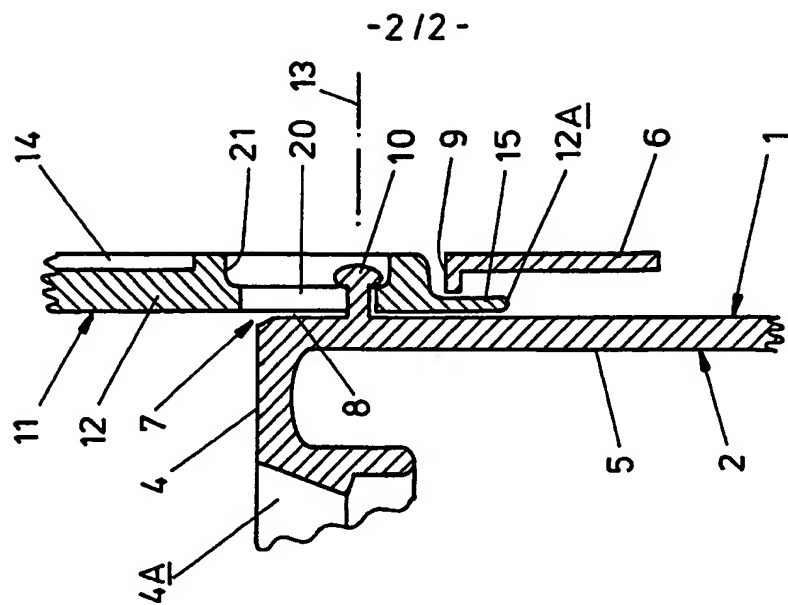


FIG. 3

TITLE

"A container assembly"

TECHNICAL FIELD & BACKGROUND ART

5 The present invention relates to a container assembly  
of the kind having a container with an upstanding side wall  
on which is carried a U-shaped carrying handle that  
straddles the container and has its legs pivotally mounted  
on the side wall. With known containers of the  
10 aforementioned kind the handle is pivotally mounted to be  
rotatable about an axis between an upstanding carrying  
position and a storage position remote from the carrying  
position. The storage position is usually with the handle  
lying adjacent to the upstanding side wall and extending  
15 about the periphery of the container to permit unimpeded  
access to an open top that may be provided in the container  
and to facilitate vertical stacking of several similar  
containers one on another. A disadvantage of known  
container assemblies of the kind above mentioned is that  
20 when the container and handle are formed of plastics  
material (as is now well known for open topped paint  
containers or pots), occasionally the handle disengages  
from the container at one or other of its pivotal  
connections whilst the assembly is being carried by its  
handle in the carrying position. This disengagement is  
25 caused mainly by rough handling of the assembly or by  
accidentally impacting the container during carriage by its  
handle so that the handle legs break away from their  
engagement with the container through the pivots. It is  
the object of the present invention to provide a container  
30 assembly by which the aforementioned disadvantage may be  
alleviated.

STATEMENT OF INVENTION AND ADVANTAGES

According to the present invention there is provided

a container assembly comprising a container having an upstanding side wall and a U-shaped carrying handle which straddles the container and has its legs pivotally mounted on the side wall to be rotatable about an axis between an upstanding carrying position and a storage position remote from said carrying position, and wherein in the carrying position free end part lengths of the handle legs are received behind wall parts of the container to restrain the legs from displacement outwardly of each other along said axis.

The present invention was primarily, but not exclusively, developed for container assemblies constructed from plastics moulded components. As previously mentioned, with known container assemblies, it is possible during rough handling for the legs of the handle to be displaced outwardly of each other along the pivotal axis with sufficient force to disengage the handle from the container. However, by the present invention the handle, at least when in its upstanding carrying position has free end part lengths of its legs received behind wall parts of the container. These wall parts restrain the legs from displacement outwardly of each other along the pivotal axis and thereby alleviate the possibility of the handle disengaging from the container side wall. The restraint provided by the wall parts of the container to the aforementioned displacement of the handle legs when the handle is in its carrying position will usually be additional to similar restraint as may be provided for the handle legs by the pivotal connection between those legs and the container. Usually the pivotal connection will be provided by pivots such as studs on the handle legs engaging with seatings provided in the container side wall or by pivots such as studs on the side wall engaging in

seatings in the handle legs. With plastics moulded components the pivotal studs will usually be formed integral with the component (the handle or the container) on which they are provided.

#### DRAWINGS

One embodiment of a container assembly constructed in accordance with the present invention will now be described, by way of example only, with reference to the accompanying illustrative drawings, in which:-

Figure 1 is a perspective view of the assembly with its handle shown in the storage position;

Figure 2 is a side elevation of part of the assembly and shows the handle in an upstanding carrying position, and

Figure 3 is a section of part of the assembly taken on the line III of Figure 2.

#### DETAILED DESCRIPTION OF DRAWINGS

The container assembly illustrated, will typically, be used for the storage and carriage of paint or similar material with its components manufactured as plastics mouldings. The assembly has a container 1 formed by a side wall 2 upstanding from a closed base 3. The side wall 2 carries a top wall 4 having a top opening 4A. Usually a lid (not shown) will be provided to close and seal the opening 4.

The side wall 2 is formed by an inner wall 5 that extends over the depth of the container (and carries the base 3 and the top wall 4) and a skirt 6.

The skirt 6 is located outwardly of the inner wall 5, and projects downwardly from an upper end region of that inner wall to extend around the periphery of the inner wall (as will be seen from Figure 3). The skirt 6 is profiled to present an external rebate 7 which extends about the

upper end region of the container 1 for approximately three quarters of the container periphery. The rebate 7 is formed between an outwardly directed upstanding face 8 of the wall 5 and an upwardly directed shoulder 9 of the skirt 6.

Projecting outwardly of the face 8 and located on opposite sides of the container 1 are a pair of pivots coaxial with axis 13 and in the form of studs having heads 10. The studs 10 are conveniently moulded integral with the side wall 2 and are engaged with seatings in a carrying handle 11. The handle 11 is of substantially U-shape to present a pair of legs 12 which engage one with each of the studs 10 so that the handle can be rotated about the axis 13 between an upstanding carrying position (as shown in Figure 2) where the handle bridges the open top 14 and a storage position (as shown in Figure 1) where the handle is accommodated unobtrusively and in substantially complementary relationship within the rebate 7 so that one side face of the handle is in face-to-face abutment with the shoulder 9 and the opposite side face of the handle is substantially coplanar with a top face presented by the top wall 4. For convenience of manually engaging the handle 11 to rotate it from its storage position into its carrying position, small flanges 14 are provided at its opposed longitudinally extending edges so that such a flange 14 can be engaged by the fingers to lift the handle from its seating in the rebate 8. Also an undercut 14A is provided in the skirt 6 to facilitate manual engagement of the handle.

Provided in the shoulder 9 of the skirt 6 at locations beneath the respective pivots 10 are upwardly directed slots 15. During pivotal movement of the handle 11 about the axis 13 and as the handle is rotated from its storage

position (in Figure 1) to its carrying position (in Figure 2), free end part lengths 12A of the handle legs are caused to move into the respective slots 15. When the handle is in its carrying position, the leg parts 12A extend through and are closely received in the slots 15 so that such leg parts are position behind wall parts formed by the skirt 6 and between such respective wall parts and the inner wall 5. This latter condition is best seen in Figure 3 from which it will be appreciated that the engagement of the leg parts 12A in their respective slots 15 at opposite sides of the container will restrain the legs 12 from displacement outwardly of each other along the axis 13 and thereby alleviate the legs from disengaging with their respective pivots 10.

In addition to the aforementioned restraint provided by the engagement of the leg parts 12A in the slots 15, the legs 12 may be restrained from displacement axially outwardly of each other along the axis 13 by the engagement of the headed studs 10 with their seatings in the respective legs 12. In the present embodiment the studs 10 engage with seatings in the form of keyhole shaped apertures 20 in the handle legs. The apertures 20 extend generally longitudinally of the legs 12 and have relatively large and small area open parts which inter-communicate through a waist part. At end regions of the apertures 20 adjacent to the free ends of the respective legs 12, the shanks of the headed studs 10 are captured in the small area open parts to permit the rotational movement required of the handle and retain the legs from displacement outwardly of each other along the axis 13. At end regions of the apertures 20 remote from the free ends of the legs 12, the apertures provide the large area open parts so that the headed studs may pass therethrough to engage with or to

be disengaged from the respective legs. By displacement of the handle legs radially relative to the axis 13 the shanks of the studs 10 may be formed through the waist parts of the apertures 20 from the large to the small area open parts or vice versa. From Figure 2 it will be seen that if the handle is positioned at approximately 45° relative to the top wall 4, it may be disengaged, should the need arise, from the headed studs 10 by displacing the handle downwardly in the Figure relative to the container 1 so that the head 10 of each stud coincides with the large open parts of the aperture 20 and may be passed through that aperture by flexing the handle to clear the stud (even though the free end parts 12A of the handle legs may engage in the slots 15). By reversing the aforementioned procedure the handle may be snap engaged through the waist part of the aperture 20 with the stud pivots. When a stud 10 is engaged in its aperture 20 it will be seen from Figure 3 that the head of the stud is accommodated in a recess 21 of the handle leg to be substantially unobtrusive.

In a modification, not shown, each slot 15 is extended over an adjacent ramp part 9A of the shoulder 9 and these ramp parts are arranged relative to the handle so that the free end part lengths 12A of the legs are received in the slots 15 when the handle is in its storage position and such free end part lengths of the legs slide along the slots 15 to maintain their co-operation therewith during rotation of the handle between its carrying and storage positions.

CLAIMS

1. A container assembly comprising a container having an upstanding side wall and U-shaped carrying handle which straddles the container and has its legs pivotally mounted on the side wall to be rotatable about an axis between an upstanding carrying position and a storage position remote from said carrying position, and wherein in the carrying position, free end part lengths of the handle legs are received behind wall parts of the container to restrain the legs from displacement outwardly of each other along the said axis.

2. An assembly as claimed in claim 1 in which the handle in its storage position lies adjacent to the side wall of the container substantially over the length of the handle so that it encloses part of the periphery of the container to be substantially unobtrusive thereon.

3. An assembly as claimed in claim 2 in which the upstanding side wall comprises a rebate at its upper end that presents an upwardly directed shoulder and the handle in its storage position is accommodated in said rebate to be substantially unobtrusive on the container.

4. An assembly as claimed in any one of the preceding claims in which the side wall comprises slots within which the free end part lengths of the handle legs are received to be located behind parts of the side wall at least when the handle is in its carrying position.

5. An assembly as claimed in claim 4 when appendant to claim 3 in which the slots are located in said upwardly directed shoulder.

6. An assembly as claimed in any one of the preceding claims in which the side wall has an upstanding inner wall and a skirt which projects downwardly from an upper end region of the inner wall and extends about the periphery of

the container, and wherein said wall parts behind which the end part lengths of the legs of the handle are received are provided by regions of said skirt.

5 7. An assembly as claimed in claim 6 when appendant to claim 3 in which said shoulder is provided on the skirt.

10 8. An assembly as claimed in claim 7 when appendant to claim 4 in which said slots are provided in the shoulder on the skirt and in its carrying position the free end part lengths of the handle legs are located between the skirt and the inner wall.

9. An assembly as claimed in any one of the preceding claims in which the handle is mounted to be rotatable on pivots extending axially outwardly of the side wall.

15 10. An assembly as claimed in claim 9 in which the pivots comprise headed studs on the side wall which engage in seatings in the handle legs so that at end regions of said seatings adjacent to the free ends of the respective legs the headed studs in engagement therewith are captured to permit the rotational movement required of the handle and  
20 to retain the legs from displacement outwardly of each other along said axis and at end regions of said seatings remote from the free ends of the respective legs, the headed studs are engageable with, and disengageable from, the respective seatings.

25 11. An assembly as claimed in claim 10 in which the seatings comprise keyhole shaped apertures in the respective handle legs.

30 12. An assembly as claimed in any one of the preceding claims in which at least one of the handle and the container comprises a plastics moulding.

13. An assembly as claimed in claim 12 when appendant to claim 9 in which the side wall comprises a plastics moulding and the pivots are moulded integral therewith.

14. An assembly as claimed in any one of the preceding claims in which the container has an open top and the handle in its carrying position straddles said open top.

15. An assembly as claimed in claim 14 in combination with a lid that provides a closure for said open top.

16. A container assembly substantially as herein described with reference to the accompanying illustrative drawings.

**Patents Act 1977**  
**Examiner's report to the Comptroller under Section 17**  
**(The Search report)**

Application number  
 GB 9325275.7

**Relevant Technical Fields**

(i) UK Cl (Ed.M) B8D (DCW4, DCD, DCE)

(ii) Int Cl (Ed.5) B65D 25/32

Search Examiner  
 LINDA HARDEN

Date of completion of Search  
 7 FEBRUARY 1994

**Databases (see below)**

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant  
 following a search in respect of  
 Claims :-  
 1-16

(ii) ONLINE DATABASES: WPI

**Categories of documents**

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| <p><b>X:</b> Document indicating lack of novelty or of inventive step.</p> <p><b>Y:</b> Document indicating lack of inventive step if combined with one or more other documents of the same category.</p> <p><b>A:</b> Document indicating technological background and/or state of the art.</p> | <p><b>P:</b> Document published on or after the declared priority date but before the filing date of the present application.</p> <p><b>E:</b> Patent document published on or after, but with priority date earlier than, the filing date of the present application.</p> <p><b>&amp;:</b> Member of the same patent family; corresponding document.</p> |
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Category	Identity of document and relevant passages	Relevant to claim(s)
X	GB 0821893 (FRANCIS) see Figures 2 and 3	1,9-11, 14,15

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on line databases considered for search are also listed periodically in the Official Journal (Patents).